

CHAPTER 2

COMMAND, CONTROL, AND COMMUNICATIONS

Command, control, and communications (C3), comprises coordinating, planning, directing, and controlling all unit activities. The C3 process serves two purposes. It gives the commander the means to communicate his intent to his staff and maneuver and support forces. It also enables staffs to quickly and effectively assist their commanders in planning and executing operations faster than the enemy can react. To be effective, C3 must be properly organized. Staffs must be well trained. Commanders and staffs must practice the C3 process so that procedures become instinctive.

CONTENTS		Page
Section I. Leadership	.....	2-2
Section II. The Planning Process	.....	2-2
Troop-leading Procedures	.....	2-2
The Command Estimate	.....	2-5
Abbreviated Planning	.....	2-8
Section III. Intelligence Preparation of the Battlefield	.....	2-9
Battlefield Area Evaluation	.....	2-10
Terrain Analysis	.....	2-11
Weather Analysis	.....	2-13
Threat Evaluation	.....	2-13
Threat Integration	.....	2-14
Section IV. Communications	.....	2-16
Responsibilities	.....	2-16
Mobile Subscriber Equipment	.....	2-16
Section V. Command and Control Techniques	.....	2-18
Orders	.....	2-18
Briefbacks	.....	2-18
Rehearsals	.....	2-18
Position Location Devices	.....	2-19
Readiness Conditions	.....	2-21
Section VI. Operations Security	.....	2-22
Countersurveillance	.....	2-22
Information Security	.....	2-24
Signal Security	.....	2-24
Physical Security	.....	2-24
Section VII. Continuous Operations	.....	2-24
Effects	.....	2-24
Key Leader Sustainment	.....	2-25
Unit Sustainment	.....	2-26

Section I. Leadership

Leadership is a primary dynamic of combat power that affects the success of C3. In modern war, the enemy seldom conforms to expectations; defeating him demands bold and aggressive leadership. Leaders must be willing to take responsibility and use initiative, guided by their commander's intent. Leaders must be able to think clearly and quickly. Speed and decisive action are critical.

One of the keys to success of C3 is the ability of leaders at all levels to issue effective, mission-type orders. These orders must place restrictions on subordinates only to the degree that coordinated action of the command is assured. They must use terminology that is widely understood throughout the command. Above all, they must accurately communicate the commander's intent, which guides subordinate commanders in pursuit of the common goal in the absence of communications.

Light armor units are most effective when massed. However, they are often decentralized and separated by means of task organization with light infantry. This can occur down to platoon level; except for rare exceptions, platoon is the smallest light armor fighting element. In such an organization, commander-subordinate relationships must be characterized by mutual trust and respect. Commanders and subordinates must know how each other thinks. Commanders must teach subordinates not what to think, but how to think. Conversely, when armor units are decentralized and attached to light infantry, armor leaders must be assertive in advising the infantry commander and his staff on the best means for armor employment and logistical requirements. Constant communications with the armor liaison officer (LO) is paramount to ensure continuity between light and heavy forces.

Section II. The Planning Process

To be successful, commanders must be able to make good decisions quickly. Staffs must be able to assist commanders in making those decisions and translating them into action faster than the enemy can react. Units that are able to respond quickly to changing situations will seize the initiative from the enemy and defeat it.

The planning process is a systematic approach to formulating tactical plans. Processes used are troop-leading procedures, the estimate of the situation (command estimate), the factors of METT-T, and intelligence preparation of the battlefield (IPB). These processes are interrelated. [Figure 2-1](#) shows the flow of the planning process. The planning process is accomplished based on the time and other resources available. The following paragraphs briefly explain how the planning process is conducted. They include a discussion of commander and staff actions during troop-leading procedures. They also describe how the estimate, METT-T, and IPB are integrated into the troop-leading procedures and how they may differ for light armor units.

TROOP-LEADING PROCEDURES

Troop-leading procedures are a continuous process. There are no distinct start and stop points. Steps are not independent; several can occur simultaneously. Troop-leading procedures apply to all levels of command. They can be adjusted to fit any tactical situation. For example, the less time a unit has, the more it must abbreviate the procedures.

The collection, analysis, and distribution of information is a continuous staff requirement. Information analyzed by a staff section is exchanged with other staff sections and used to update the situation. Periodic staff huddles are useful to successfully execute the mission, the staff must focus on the information the commander needs.

Troop-leading procedures provide a systematic approach for making decisions and a framework for organizing action upon receipt of a new mission. This section will not discuss troop-leading procedures in detail; they are described more thoroughly in numerous references, such as FM 71-2.

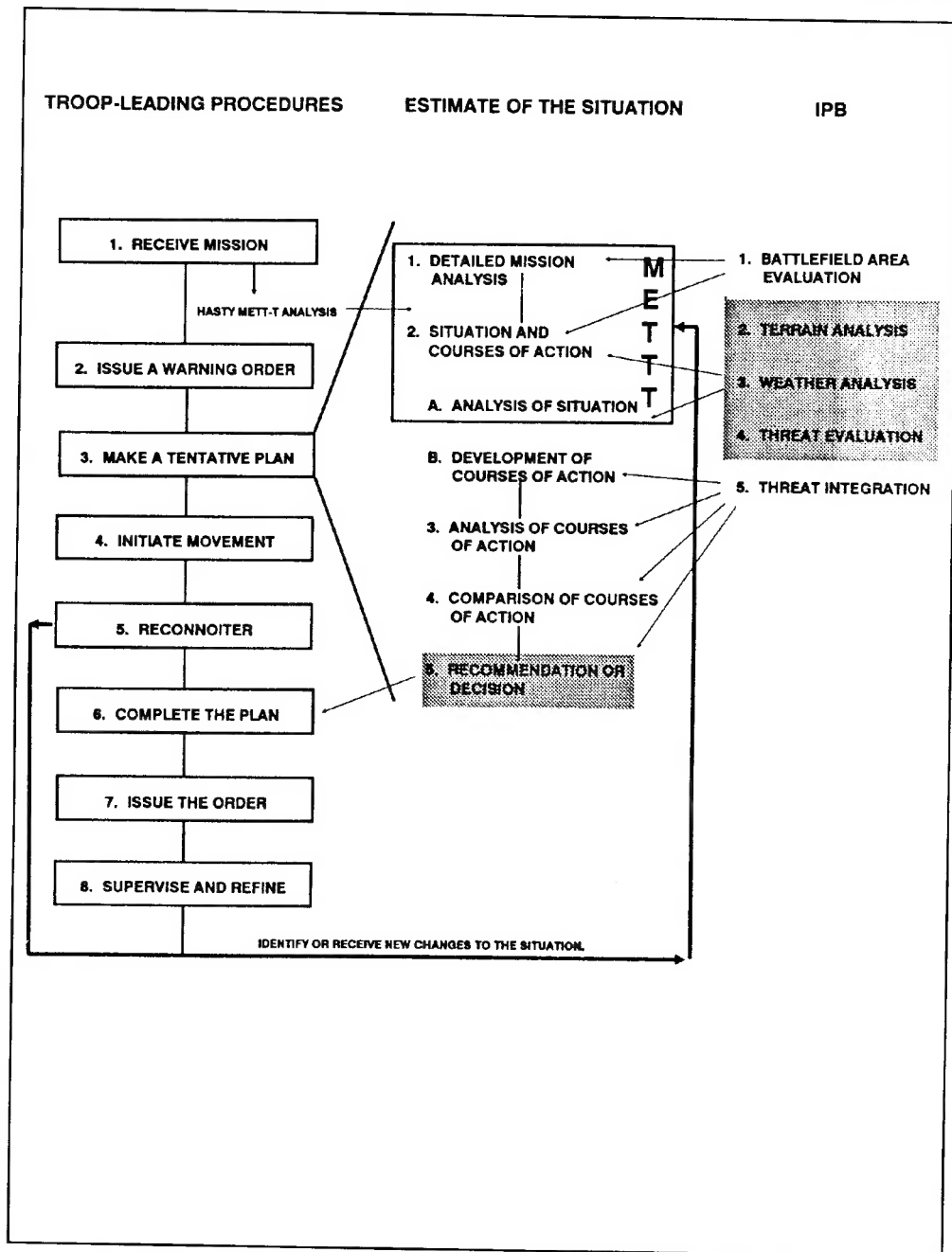


Figure 2-1. Integration of troop-leading procedures, command estimate, METT-T analysis, and intelligence preparation of the battlefield.

Application of Troop-leading Procedures. Troop-leading procedures are used at all echelons of command. This discussion will provide light armor commanders and staffs with an explanation of the processes involved in planning. The application of troop-leading procedures in practice will vary with each different situation.

Company commanders will not have the time to perform all the steps of the planning process. They cannot produce a detailed IPB product. They will have to visualize the elements of the IPB that relate to their battle space. This includes identifying enemy avenues of approach (including air and dead space), reconnoitering as far forward as possible, and viewing the AO from the enemy's perspective. Company commanders should not hesitate to seek assistance from the battalion staff. Ten to 15 minutes of staff coordination can avoid much wasted time and effort. Company commanders can also receive assistance during planning from their executive officers (XO), first sergeants (ISG), and fire support team (FIST) chiefs.

Backward Planning. One of the first steps in troop-leading procedures is to plan the use of available time. Backward planning is one such technique. It is used to develop an informal schedule, starting with the execution time in the mission statement and listing activities in reverse order back to the current time. The schedule should ensure that the commander and staff consume no more than one-third of the available time to prepare and issue orders to subordinate commanders. Using a preprinted form listing normal activities is a technique that commanders may use to make their schedules. The light armor battalion commander may use a preprinted timeline form for planning (see Figure 2-2).

LIGHT DATA	TIME	EVENT	TIME	TASKS TO BE COMPLETED
	_____	Received Mission	_____	Situation Update Brief
			_____	Mission Analysis/Restated Mission
			_____	Warning Order Sent
			_____	Receive Cdr's Planning Guidance
			_____	Develop Estimates and War Game
			_____	Conduct Reconnaissance:
				-Position TRPs
				-Identify Battle Positions
	_____	BRIGADE OPORD	_____	Complete COA Analysis
			_____	COA Decision Brief:
				-War Game with Commander
				-DST Drafted
			_____	OPORD Preparation:
				-Finalize Scheme of Maneuver
				-Prepare/Wend IVIS Overlay
			-Initiate Reproduction	
		_____	Begin Pre-Positioning Class V	

Figure 2-2. Example of a backward planning timeline (defense).

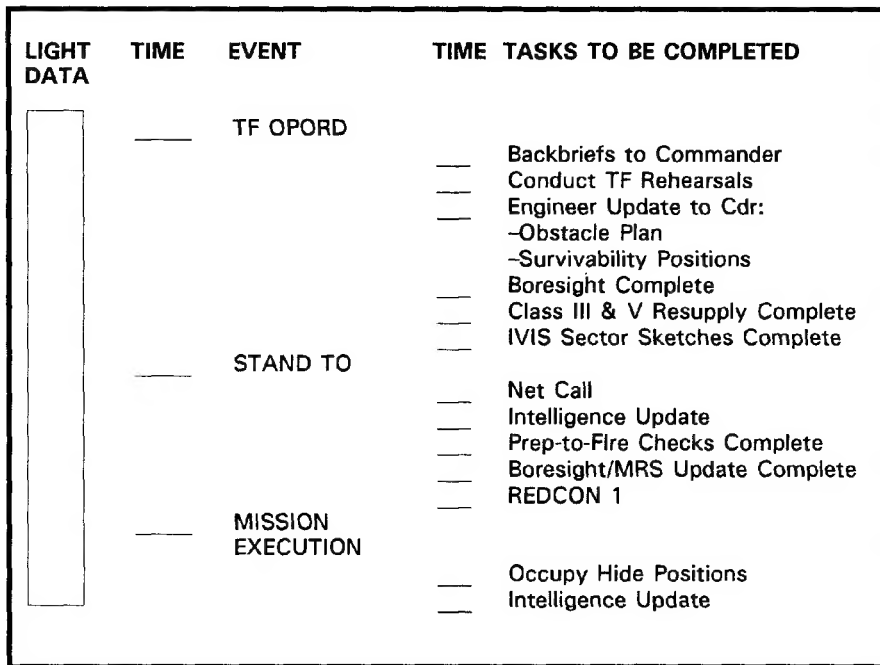


Figure 2-2. Example of a backward planning timeline (defense) (Cont).

THE COMMAND ESTIMATE

The command estimate is an integral part of troop-leading procedures. It is the logical thought process to assist the commander with formulation of tactical decisions at any level. The Army developed the command estimate process to preclude planning procedures that require an inordinate expenditure of time or adherence to a rigid structure. See Figure 2-3 for a summary of the command estimate. FM 101-5 contains a detailed description of the command estimate.

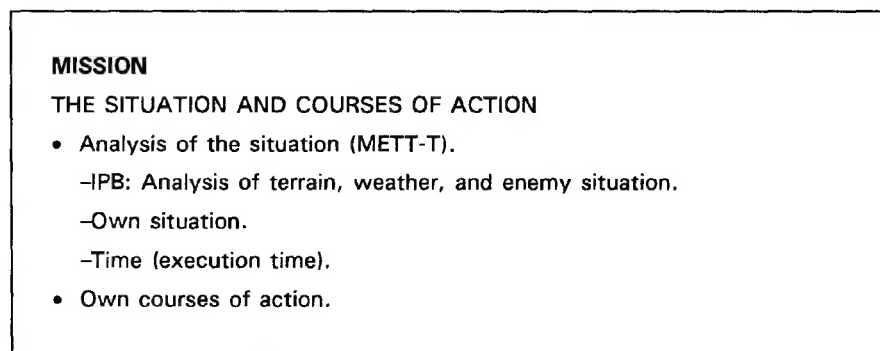


Figure 2-3. Command estimate.

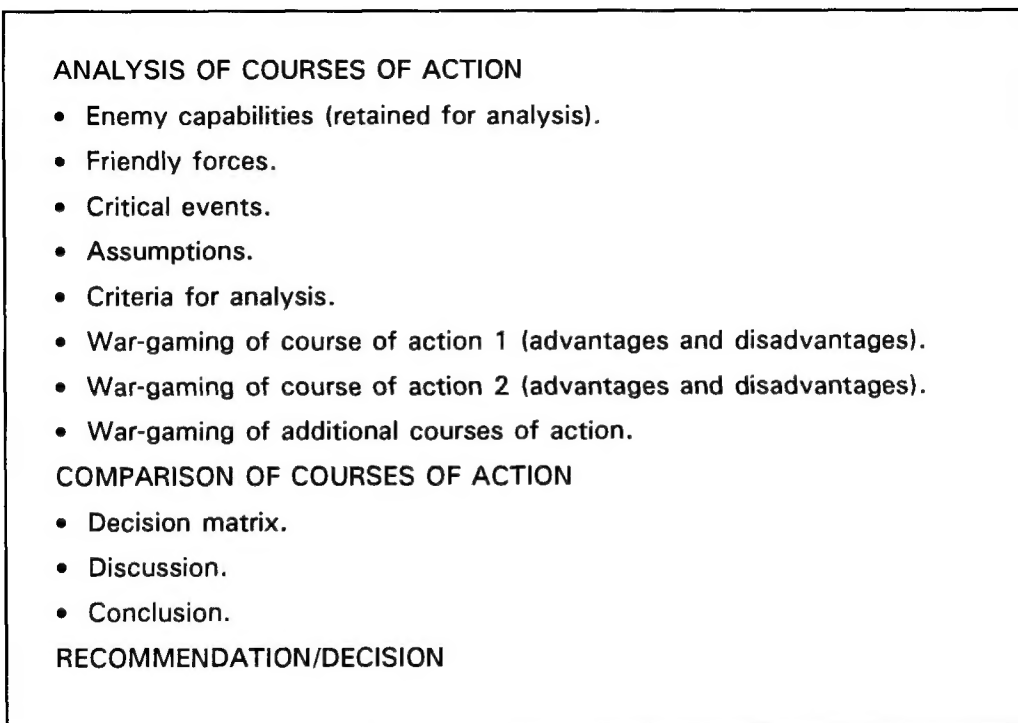


Figure 2-3. Command estimate (Cont).

Staff Input. The battalion staff provides information to the commander and operations and training officer (S3) to help in their command estimate process. Refer to appropriate doctrinal manuals for additional information on specific staff responsibilities in the estimate process.

Command Estimate Checklist. The command estimate checklist consists of the following elements:

- Receive the mission.
 - Issue warning order (WO).
 - Alert staff.
 - Time appreciation.
- Analyze the mission.
 - Intent of higher commander.
 - Intent of commander two levels up.
 - Review of AO to understand higher mission and intent.
 - Tasks to be performed (specified, implied, and essential).
 - Constraints (what must be done).
 - Restraints (what can be done).
 - Acceptable level of risk (time, space, and forces).
 - Restated mission.

- Issue guidance to staff.
 - Restated mission.
 - COA to consider or not to consider.
 - Time schedule.
 - Changes required to current task organization.
 - Movement instructions.
 - Reconnaissance and security instructions.
- Analyze the situation.
 - IPB (S2).
 - +Current enemy situation.
 - +Enemy capabilities and COA.
 - +Named areas of interest (NAI) and timelines.
 - +Exploitable enemy weaknesses.
 - Own situation (S1, S3, S4).
 - +Current.
 - +Projected.
- Develop alternative COA (S3).
 - Forces required based on the evaluation of enemy units, avenues of approach, objectives, and any other factors affecting force ratios, such as surprise, terrain, or flank positions.
 - Locations to engage enemy (target areas of interest [TAI]), attack (line of departure [LD] and axes), and defend from BPs.
 - Array forces (two levels down).
 - +Main body.
 - +Reconnaissance/security (covering NAI and decision points [DP]).
 - Scheme of maneuver.
 - Allocate subordinate headquarters.
- Analyze (war-game) COA (S3).
 - Identify critical events.
 - War-game.
 - +All plausible enemy COA.
 - +Action, reaction, and counteraction.
- Compare COA, including advantages versus disadvantages of each (S3).
- Decide on COA and inform staff and subordinate elements.
 - Base decision on staff recommendations (S2, S3, and S4).
 - Issue decision as concept of operations.
 - Issue further planning guidance.
 - Issue updated WO.
 - Issue fragmentary order (FRAGO) or operation order (OPORD).

ABBREVIATED PLANNING

Hasty Planning. Hasty planning will be the norm after hostilities are initiated. The focus during the abbreviated planning process is time management and concurrent actions. Once the battalion staff has a thorough understanding of the formal command estimate process, it can conduct more efficient hasty command estimates. Hasty planning is situational; proficiency comes through practice. The XO runs the planning effort while the light armor battalion is in contact.

Once deployed into a tactical situation, the light armor unit will have limited time available to plan for a mission. A checklist for hasty command estimates that can be used by the battalion commander and staff is shown in Figure 2-4.

Tactical Contingency Planning. Commanders may identify contingency missions during the planning process, especially if the unit is in reserve. When faced with several possible missions, commanders should consider all critical tasks for each contingency. The following is a sample checklist for considering the critical aspects of a counterattack mission:

- Target array.
- EAs.
- Direction of attack into target.
- Routes.
- Alternate routes.
- FS C2.
- Air defense artillery (ADA) to prevent interdiction.
- Mobility plan for enemy family of scatterable mines (FASCAM).
- Passage of lines coordination.
- Cue to launch.

Units often have on-order and follow-on missions. Commanders should identify, plan, and coordinate critical tasks of these missions while planning for the primary or first mission.

Hasty Command Estimate - Checklist. When planning time is too short, the commander must abbreviate the process even more. The sample checklist below can be used by the commander and staff to develop the abbreviated estimate.

- Mission receipt (same).
- Mission analysis.
 - Intent of higher commander.
 - Intent of commander two levels up.
 - Essential tasks to be performed.
 - Restated mission.

Figure 2-4. Hasty command estimate - checklist.

- Initial guidance to staff.
 - Movement instructions.
 - Reconnaissance and security instructions.
 - Updated WO.
- Situation.
 - Current enemy situation (intelligence map).
 - Current friendly situation (operations map).
 - Deductions.
- COA (while looking at ground or operations map).
 - Locations to engage enemy.
 - Scheme of maneuver.
- Analysis of COA (using basic criteria such as time, simplicity, and effectiveness).
- Issue decision as concept of operations.
- Issue FRAGO.

Figure 2-4. Hasty command estimate - checklist (Cont).

Section III. Intelligence Preparation of the Battlefield

IPB is a systematic and continuous process of analyzing the enemy, weather, and terrain in a specific geographical area. The IPB process integrates enemy doctrine with weather and terrain to determine how the weather and terrain will influence the enemy's fight.

IPB is an extremely important aspect of preparing intelligence for the commander. It is integral to the command estimate, as illustrated in [Figure 2-1](#). Faced with large AOs, a limited number of maneuver units, and finite collection assets, the commander must rely on IPB to provide his focus in operations other than war. IPB must be continuously updated for the commander to act quickly and decisively.

The commander and all members of the staff participate in the IPB process. The S2 must determine, as closely as possible, the locations of insurgent elements to allow the commander the flexibility to act immediately against the enemy. The S3 uses the IPB to analyze the enemy, terrain, and weather in his estimate. He must know the IPB process. He must also evaluate the quality of the S2's input. The S1 and S4 use the IPB to determine the impact of enemy, terrain, and weather on personnel and logistical operations. The CS staff uses the IPB in a similar manner for their areas.

Since light armor units may become involved in contingencies worldwide, it is difficult for the S2 to have prepared analysis already completed for each possible area. The S2 must start the IPB process as early as possible. As "hot spots" flair up in the world, the S2 can review current OPLANs and begin terrain, weather, and threat analysis as a precaution. This allows him to update the information if the unit is alerted for deployment. Early identification of the AO will enable the S2 to start the terrain analysis. As a minimum, the situation template should be finished when the S3 begins his analysis of the situation.

IPB is a useful aid to planning. There is a tendency, however, to believe all assumptions made in IPB are true and to develop plans accordingly. This is dangerous because it could make friendly forces susceptible to surprise by the enemy. Commanders and staffs must be aware of this possibility. They must develop plans to prevent the command from being surprised by unexpected enemy actions. Some of the techniques provided in the following discussion will assist staffs at the battalion level in performing IPB.

A modified form of IPB is required to provide the commander with the intelligence estimate in operations other than war. These modifications stem from three critical factors inherent to most situations:

- The nature of the threat.
- The importance and welfare of the civilian population.
- The role of the host-nation government and military.

In operations other than war, insurgent forces will blend with the population. They will use a variety of tactics and levels of violence to accomplish their goals, including propaganda, terrorism, guerrilla tactics, and crime. While generic organizational categories and strategies have been identified, insurgents seldom conform to a common doctrine in operations other than war. IPB must be based on the specific situation and geographic area of concern.

Constant awareness of the population factor is critical to the long-term success or failure of operations other than war. Insurgency or counterinsurgency will involve combat, CS, and CSS operations near or among host-nation civilians. A primary objective of these operations will be to protect and secure the population and to separate them physically or psychologically from the insurgent. Such security and separation effort may be required continuously. They may place heavy constraints on the indiscriminate use of weapons and require carefully managed use of force. Key to planning in operations other than war is extensive analysis of all aspects of the civilian population during IPB, as well as IEW target development. The use of these procedures reduces the need for indirect fire or air-delivered weapons in favor of proactive intelligence operations and small unit direct action.

Ultimate success in operations other than war lies with the host nation. Host-nation civil and military authorities will primarily be responsible for military operations, civil affairs, PSYOP, and population resource control. US forces ideally should avoid these tasks, but may be required to provide advice or backup. Knowledge of the host nation's military tactics, operations, and intelligence functions, as well as its capabilities and limitations, are critical in effective integration of US military forces.

The five functions of the IPB process are battlefield area evaluation, terrain analysis, weather analysis, threat evaluation, and threat integration. As currently used for conventional conflict planning, these functions allow for effective integration, with some modifications, of the factors unique to operations other than war. The following discussion provides a step-by-step examination of considerations that may apply when light armor units are deployed in a nonconventional role.

BATTLEFIELD AREA EVALUATION

Results of battlefield area evaluation are recorded on Overlay #1, the combined obstacles overlay. The overlay accomplishes the following:

- It identifies the AO. In all operations, including those other than war, the AOs are geographical areas designated by the next higher headquarters. They represent the areas where the commander has the authority and responsibility to conduct operations.

- It identifies the area of interest. This is determined by the commander on the recommendation of the S2. It contains enemy forces that could affect future operations. In the absence of guidance from the commander, make the area of interest at least half again the size of the AO.
- It identifies other considerations in battlefield area evaluation. Both AOs and interest are analyzed based on METT-T; in operations other than war, however, an evaluation of both areas as to host-nation civilian or military activity is also critical.

TERRAIN ANALYSIS

Special products and detailed terrain analysis information can be provided by corps or division terrain teams for use in light armor units. Information developed from the terrain analysis is recorded on Overlay #1, the combined obstacles overlay. This analysis is based on the five military aspects of terrain (the sequence may vary according to the way IPB is developed):

- Obstacles.
- Cover and concealment.
- Observation and fields of fire.
- Key terrain.
- Avenues of approach.

The following paragraphs provide a detailed discussion of the information and considerations that are part of the terrain analysis process as it relates to operations other than war.

Because insurgent forces are generally fewer in number than counterinsurgent forces and lack sophisticated logistics, they normally avoid positional warfare. They usually avoid seizing, controlling, or defending conventionally defined "key terrain." Also, rapid movement across difficult terrain is one of the insurgent's major assets. Therefore, traditional combined obstacles overlays have limited bearing on analysis of threat movement. To insurgents, the most important aspects of terrain are those that provide logistics support and security.

The population is often the dominant factor in operations other than war. The population can provide both support and security to the insurgent and represents the only key "terrain feature" which must be "seized," "controlled," or "defended." With the proper information and collection effort, the S2 can begin classifying the population in the battlefield area into logical groups (tribal, religious, ethnic, or political). Their affinities and loyalties must be evaluated, maintained, and updated. The S2 normally relies on higher headquarters and the host nation for this type of information.

Although the definition of key terrain remains the same in operations other than war as in other military operations, considerations involved in selecting key terrain differ significantly in counterinsurgent operations. In conventional operations, such factors as characteristics of the local population and the logistical resources of the area play little or no part in selecting key terrain. In fact, such aspects of the AO normally are considered by the S2 after he selects key terrain. Counterinsurgent operations may be rural or urban in nature, and determination of "key" terrain within the overall area will be influenced considerably by these other characteristics. Knowledge of these factors as they affect the use of the AO by both the friendly and enemy forces is essential for selecting key terrain. Examples include the following:

- A village or town that has no tactical significance, but has psychological or political significance as a provincial or district seat of government.

- Coffee, rice, or other crop fields, especially during the harvest season. These may have little tactical significance, but are extremely important to the livelihood of the civil population.
- Sources of food. If the guerrilla force is known to have a critical shortage of food, any source of food within the AO, such as a market or rice storage facility, may become key terrain.
- Drugs. In drug-producing areas, these may be key areas because of their economic value to guerrillas.
- Lines of communication. Trails and roads frequently become key terrain in areas such as the jungle and high mountains because they may be the enemy's only armored avenue of approach.
- Sources of medical supplies. Guerrilla forces frequently face serious shortages of medical supplies; therefore, any area or outlet where such supplies can be obtained may be key terrain.

An overlay may also be prepared to identify insurgent logistical sustainability, including populations providing water and food for guerrilla forces or areas that, because of their location, provide easy access to such supplies. The combination of overlays for population status and logistical sustainability can identify areas from which insurgents are likely to operate. Areas with a high probability of supporting insurgents include those that provide cover and concealment, a friendly or neutral population, and ready access to supplies. These areas can become NAI for further intelligence collection to confirm or deny an insurgent presence in the area and, considered with other indicators, to determine its intentions. Where areas of potential population or logistical support are separated from areas of cover and concealment, insurgents may move between the two.

Two other overlays that may be prepared during the terrain analysis process are the trap overlay and the road and trail overlay. The trap overlay identifies targets that insurgents may find attractive to sabotage or attack. These may include bridges, power stations and transmission lines, sites that favor ambushes, or even likely kidnap targets. Such areas are marked on the map with attention directed to possible insurgent access and escape routes. The trap overlay may be combined with the logistical sustainability overlay. The road and trail overlay gives special attention to lines of communication that are in potential insurgent areas, that support a potential insurgent area, or that are new. Many times, aerial imagery can reveal new trails.

Avenues of approach are identified, as in other operations, as a result of consideration of the other military aspects of terrain. In other operations, however, the key consideration for avenues of approach is adequate maneuver space; guerrilla and counter guerrilla operations have peculiarities that require a departure from normal considerations. Historically, most guerrilla activities in operations other than war have been small-unit actions involving company-size and smaller units. The intelligence process must identify and analyze smaller avenues of approach into areas and installations defended by friendly units. No avenue of approach should be disregarded simply because the terrain appears impassable. In fact, avenues of approach over difficult and seemingly impassable terrain normally offer the counter guerrilla force its greatest opportunity for achieving surprise. General avenues of approach can sometimes be identified by studying the population status overlay. In many cases, personnel or supplies will move through areas where the population is sympathetic to the insurgents.

WEATHER ANALYSIS

The same weather considerations and overlays generally will apply in operations other than war as in other operations. For example, weather effects on observation and fields of fire, camouflage, landing zones (LZ), and line-of-sight radio/radar equipment still apply.

A thorough knowledge of climatic conditions, as well as the usual evaluation of short-duration weather forecasts is essential to the accurate determination of the effects of weather on the unit mission. In areas of great seasonal climatic change, terrain intelligence produced during one season may be practically useless in other seasons. Therefore, climatic weather and terrain intelligence must be continuously produced and reviewed to ensure it is applicable.

Guerrilla and counter guerrilla tactics involve frequent combat action at extremely short ranges; knowledge of the effect of the weather and natural illumination on visibility is critical for planning and conduct of operations. The exact visibility conditions at specific times of day in specific types of terrain must be determined. To confirm the estimate of the effect of the weather on visibility, personal reconnaissance may be required, particularly during the periods of limited visibility.

Mobility is essential to both guerrilla and counter guerrilla offensive operations. Therefore, knowledge of the effects of the weather on trafficability will have great bearing on the timing and nature of operations. Normally, rural guerrillas will rely primarily on walking, small watercraft, and animal transport; this means the effects of the weather on trafficability and on air and amphibious mobility are usually of significance to the counter guerrilla force. Although adverse weather conditions will frequently hinder the counter guerrilla force more than its guerrilla enemy, the flooding of rivers and streams and the creation or intensification of swamps and marshes seriously reduce the guerrilla's ability to withdraw. Other weather considerations include the following:

- Guerrillas will normally use bad weather or hours of darkness to their tactical advantage. These conditions reduce the effectiveness of observation, direct fire, air support, and artillery employed by the counterinsurgency force.
- Weather can affect the availability of food supplies, such as crops and livestock.
- It is more difficult for insurgents to cache supplies in frequently flooded areas.
- Mass demonstrations are planned for predicted periods of good weather to ensure maximum turnout.
- Civil affairs projects and PSYOP media may be degraded by bad weather.
- Bad weather will degrade the already poor road networks common in many active insurgent areas.

THREAT EVALUATION

Threat evaluation for operations other than war must begin early and cover a wide range of factors. These factors include all aspects of the leadership, objectives, organization, tactics, external support, timing, and environment related to the insurgency. Doctrinal templates and decision support templates are also used during operations other than war (refer to FM 34-7 and FM 34-130 for additional information). This does not mean insurgents operate without tactical doctrine; it means their tactics do not lend themselves to doctrinal templates. Despite the lack of insurgent doctrine that can be templated, every effort should be made during the threat evaluation to identify the insurgents' patterns of operations and tactics and to identify specific targets that can be further analyzed and exploited during threat integration.

Guerrilla tactics are usually characterized by small-scale operations conducted over an extensive area, hit-and-run offensive techniques, withdrawal, and dispersion. Guerrilla forces, like any other enemy, have the general capabilities of attacking, defending, withdrawing, and reinforcing; however, these capabilities are implemented in ways and by means that differ from those encountered in conventional warfare. Threat evaluation must take this factor into account.

The first step in understanding the guerrilla is to make a thorough, detailed study of guerrilla organization and tactics in general, as well as those of the particular guerrilla against which the division will be engaged. This information must be understood by all levels of command. As in conventional warfare, the effectiveness of the intelligence planning, the focus of the collection effort, the processing of information, and the use of the resulting intelligence in the estimate all depend on the degree of familiarity with the enemy's tactics and techniques.

Guerrilla forces may be accounted for in terms of recognized military units (such as squads, sections, or platoons) if their organizational structure is known and if such accounting provides meaningful information for the commander and other members of the staff. If not, guerrilla strength may be accounted for in terms of total numbers or in numbers of units of a particular strength. All crew-served weapons known to be available to support the guerrilla forces are accounted for individually.

After collecting the available information on the guerrillas, the S2 evaluates what the enemy is capable of doing. Among the capabilities to be judged are whether or not the insurgent is capable of—

- Conducting sabotage and, if so, to what extent.
- Attacking defended positions.
- Employing indirect-fire support.
- Directly engaging government forces.
- Collecting intelligence.
- Using mines and booby traps.

The insurgent situation overlay is prepared during this portion of the IPB. This overlay includes all the relatively pertinent information available on the insurgent, such as urban and rural insurgent camp locations, unit operating areas or boundaries, and trails. This map is kept current as the insurgent moves and his capabilities change.

THREAT INTEGRATION

Threat integration relates enemy doctrine to the terrain, weather, and population to determine when and where the insurgent may conduct operations in support of its objectives. Generally, information for the situational template is gathered after the unit arrives on the scene. This is where the situational template for operations other than war varies from that of conventional IPB. Since there is no doctrinal template for IPB in operations other than war, the situational template is based not on formations and how the enemy moves, but on types of activity, when and where they will occur, and where guerrillas will have to be for them to occur. The template is also based on knowledge of the insurgent's capabilities and trends that show where and how it operates.

The first step is to identify the significant action or series of actions (mission) the insurgent may want to carry out. For example, will he carry out a direct attack against a defended town? Will he attempt to isolate a town or region? Will he attempt to disable the region's economy? Will he use sabotage to carry out his objectives?

Each insurgent mission requires different types of weapons, training, and tactics. A long-term, serious attempt to disable an area's economy by sabotage would require additional training and explosives (the friendly S2 would determine likely sabotage targets). If insurgents tried to directly attack, not harass, a defended town, they would need a more conventional military organization, better communications, advanced supply caches, and perhaps indirect-fire weapons. They also might require extensive intelligence-gathering capability to attempt such an operation.

A situational template to analyze possible significant insurgent attacks against a defended point requires at least the following:

- Ambush points on friendly avenues of approach into the area.
- Possible assault position(s).
- Possible locations of mortars within range of the target.
- Insurgent routes into assault positions or vicinity targets.
- Insurgent escape routes after the attack.

Insurgent activities that may foreshadow such an attack include the following:

- Increased caching of supplies.
- Increased insurgent movement.
- Increased sightings of insurgents in the area.
- Reoccupation or reverification of established camps within a one-to-two day march of the target.

In preparing a situational template for insurgent capabilities, remember that an insurgent many times will carry out multiple types of activity within a given area. The S2 must perform a pattern analysis to identify the emphasis. Situational templating provides the basis for event templating. Identification and analysis of significant battlefield events and enemy activity will provide indicators of probable enemy COA. NAI are identified through terrain analysis and situational templating. By combining information on cover and concealment, logistical support, and population status, the intelligence officer (S2) can identify potential insurgent camp areas, which are also NAI.

TAI, which are based on the NAI, will be important. For example, a light armor unit moving along a road will already have potential ambush points identified as NAI. These points were previously targeted by collection assets before and during movement. They have also been coordinated by the S2 as TAI with the fire support officer (FSO) and the S3. If potential insurgent activity is identified within the TAI, the commander can decide how to deal with it. However, care must be taken to confirm that it is insurgent activity and not civilian-related.

Target-value analysis (TVA) is also accomplished during this phase to identify high-value targets (HVT), including CPs and logistics elements. An evaluation of specific insurgent capabilities is directly related to the identification of specific HVTs. For example, if the sabotage threat is high, an HVT might be the location of explosives or an area where sabotage training is being conducted. Individuals can also be HVTs. This includes individuals whose death or capture would significantly degrade the insurgent group's leadership, espionage, population control, or operational capabilities.

Section IV. Communications

Communications are the means through which C3 is exercised. The chain of command and succession of command must be known throughout the organization. There must be open lines of communications up, down, and laterally. Leaders should use the following guidelines in planning and executing unit communications:

- Provide for redundancy in means of communications. When possible, have a backup means at key locations.
- Ensure communications checks have been conducted prior to starting an operation.
- Send all necessary spot report information the first time.
- Ensure the net control station (NCS) enforces radio discipline continuously. This will reduce unnecessary transmissions.
- Ensure subordinates know what to do during interruptions in communications. Ensure SOPs specify immediate actions in case of jamming. This should include code words and prearranged alternate frequencies.
- Avoid overloading the communications systems. Use them only when absolutely necessary. Practice disciplined communications procedures by eliminating nonessential conversations.
- Minimize the use of radios to reduce wear and tear. This will eliminate many maintenance problems and help to ensure that radios are ready to use when they are needed.
- Pay particular attention to maintaining effective lateral communications.

RESPONSIBILITIES

Responsibilities for communications are as follows: senior to subordinate, supporting to supported, reinforcing to reinforced, passing to passed (for forward passage of lines), passed to passing (for rearward passage of lines), left to right, and rearward to forward. All units must take prompt action to restore lost communications. Light armor leaders must have direct communications with the infantry headquarters to which they are attached and with any light infantry maneuver elements operating with them. These responsibilities also apply to the establishment of liaison between headquarters.

MOBILE SUBSCRIBER EQUIPMENT

Mobile subscriber equipment (MSE) provides secure long-range communications within the division or corps AO. Several types of facilities provide communications links:

- Node center (NC) provides switch, radio relay, and landline transmission equipment.
- Large extension nodes (LEN) provide access and switching capabilities for wire subscribers.
- Small extension nodes (SEN) also provide access and switching capabilities for wire subscribers.
- Radio access units (RAU) provide access for mobile subscribers.

Terminals. Stations within the division use the MSE system via one of several types of terminals:

- Digital nonsecure voice terminals (DNVT) are telephones that hook up to the MSE system by wire.
- Digital subscriber voice terminals (DSVT) are secure telephones used with the mobile subscriber radio terminal (MSRT).
- The MSRT is a radio and a DSVT that provides access to MSE for those subscribers who cannot hook in by wire.
- FAX terminals can send or receive graphics and digital traffic. They must use a DSVT or DNVT to gain access to the MSE system.

MSE Support to the Battalion. The LID has one or two NCs. These nodes are deployed throughout the division area, forming a network that provides area support to all units with MSE terminals. The light armor battalion has no organic NCs, LENS, or SENSs. Since the battalion normally occupies positions throughout the division AO, MSE nodes positioned to provide area support to divisional units will be in range of most of the light armor headquarters positions. The battalion signal officer (SO) and XO must give special attention to coordinating division MSE support for current and future operational needs. The division provides MSE support to the light armor battalion using the division signal battalion to position NCs, SENSs, and RAUs.

MSE System Layout. Figure 2-5 illustrates the relationships among the various facilities and terminals in the MSE system.

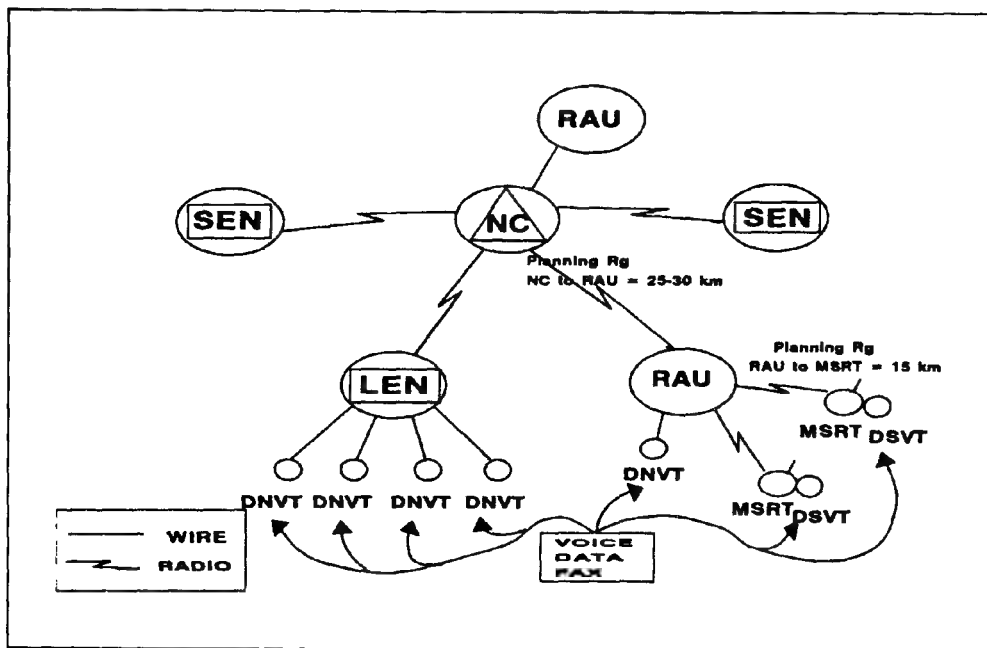


Figure 2-5. Mobile subscriber equipment system.

Section V. Command and Control Techniques

ORDERS

The success of an order should be measured against whether the mission fulfilled the commander's intent and not whether the order was executed to the letter. The format of an order must be commensurate with the situation.

Commanders will issue a written OPORD at the start of an operation. On offensive missions, he may issue a stand-alone overlay and rely on battle plays, drills, and subordinate initiative. On defensive missions, where he can shape the battlefield, he normally issues an overlay with execution matrix. During missions, he issues mission order FRAGOs by radio or by using the face-to-face technique.

Mission-type orders are a type of FRAGO that commanders use when the situation requires rapid mission change and immediate maneuver. A mission-type order contains a task and a purpose for the task. The task tells the subordinate commander what he is to do, and the purpose tells him why his commander wants him to do it. The commander tells the subordinate commander the purpose of the task so the subordinate commander can use his initiative to take necessary actions to ensure mission success. Refer to FM 101-5-1 for further information on orders.

BRIEFBACKS

The briefback technique is used by commanders to ensure subordinate commanders and leaders understand the concept and intent of the operation. The briefback takes place immediately after an orders briefing. The subordinate commander must be able to discuss his understanding of—

- The commander's intent two levels up.
- The mission and intent of the higher commander.
- The main effort.
- Essential tasks.
- How his unit supports the commander's intent.

The commander may decide to have his subordinate leaders brief selected points only because of lack of time.

REHEARSALS

Commanders and staffs at all levels should conduct rehearsals as part of troop-leading procedures if time is available. Commanders should include rehearsal plans in coordinating instructions of WOs (if possible), FRAGOs, or OPORDs. Rehearsals are not limited to maneuver elements of the TF. CS and CSS staff officers and their units may also conduct rehearsals of activities that affect the operation, such as LOGPAC organization or vehicle/casualty recovery.

When time does not permit a complete rehearsal of all critical events of an operation, the unit should, as a minimum, rehearse—

- Actions on the objective.
- Hasty breaches.
- Hasty attacks (actions on contact) or counterattacks.
- Passage of lines.

The following paragraphs discuss the various types of rehearsals.

Backbrief. The backbrief takes place after the subordinate commander has completed his own planning, but before he issues his own OPORD. The higher commander should tell the staff and subordinates in his OPORD when and where the backbriefs will take place. From the backbrief, the commander learns details of the subordinate's plan as well as how he plans to accomplish the commander's intent. He should plan to conduct backbriefs regardless of which rehearsal may be used later. If time does not permit other rehearsals, the backbrief may be the only rehearsal.

Generally, the backbrief will include—

- The subordinate commander's mission statement
- His concept of the operation.
- His intent.
- Planned reactions to the enemy and other anticipated contingencies.
- Assistance or coordination needed from the higher commander, staff, supporting units, or adjacent units.

Ideally, the backbrief should take place at a vantage point that overlooks the terrain with all of the key leaders and staff present. The commander may conduct a battalion backbrief at one of the company's positions center of sector where all of the other positions are visible, or he may choose to receive backbriefs as he visits each subordinate unit's position. The S3 can conduct backbriefs concurrently to save time.

Full. All units move over actual terrain in limited visibility and simulated NBC conditions.

Scaled. All units move over actual terrain.

Leaders Only. Leaders move over actual terrain in their vehicles or aircraft.

NOTE: If the actual terrain of the operation is unavailable, full, scaled, and leaders-only rehearsals can be conducted on terrain that is similar to the AO.

Command Post Exercise (CPX). CPX rehearsals are conducted by radio.

Terrain Model. Depending on the amounts of time, space, and resources available, several types of terrain models can be used to stage rehearsals:

- Table-mounted models showing buildings, terrain relief, and vegetation.
- Ground models using dirt, rocks, and grass to show terrain.
- Sketches on butcher paper or on the side of a vehicle.

Walk-through. A walk-through is conducted using a ground terrain model of fairly large scale; it can be either outside or inside. Graphic control measures are represented by engineer tape. Leaders literally walk across the zone or sector, imitating how they will maneuver while explaining what happens at each critical point.

Talk-though. Subordinate commanders and key staff members move stickers representing units on an operations map.

POSITION LOCATION DEVICES

Position location systems are an aid to navigation and should not take the place of map and compass navigation. Leaders must continue to use map and compass as a primary means in the event position location system signals are interrupted by interference from vegetation, weather, or other masking features. There may also be times when satellites or land-based emitters are inoperative, causing lapses in signals.

Characteristics of Position Location Devices. Several types of position location systems are available to receive signals from satellites or land-based emitters and then calculate and display the position of the user in military grid coordinates and/or latitude/longitude degrees. Some of the techniques described here refer to specific features that most devices will have. Some devices, however, may not be capable of all of the functions described.

Waypoints. The navigational functions of position location systems are based on waypoints. A waypoint is a known position entered into the system's memory by the user. Waypoints can be entered either as degrees of latitude and longitude or as military grid coordinates. The user can either enter waypoints or store the unit's position at various times.

Navigation. Position location systems can be used to assist in navigation. To navigate, identify points along your route you wish to cross or at your destination. Next, enter these points as waypoints. You can then move from waypoint to waypoint and arrive at your final destination with great accuracy. Distance and direction (range and bearing) between two known points will be accurate only if they are first entered as waypoints. The system will store your present position and then compute the distance and direction to the known point. When you are ready to start your movement, get the range and bearing to the first waypoint. As you approach within a given distance of the waypoint, an alarm will sound, indicating that you have reached the waypoint. Display the range and bearing to the next waypoint.

Cross-country Navigation. When navigating cross country, the system will direct movement from point to point. However, obstacles en route may force detours from time to time. For detours of more than a few meters, the system can assist you in getting back on track. Some systems will display the distance you are off course, a new course to the waypoint, and an estimated arrival time based on your speed for the last two minutes. A left or right arrow shows the direction to the original track and a new bearing to the waypoint. If you need to reach the desired point and the route taken is of little importance, then you have merely to follow the ideated course. The course shown is the new direction to the waypoint and will NOT return you to the original path. If you must return to the original path, you will turn in the direction of the arrow and travel the indicated distance until the system shows a correct reading.

Road March. Position location systems can be useful on road marches in identifying checkpoints or coordination points on long routes that lack distinctive features. You enter a waypoint for the position of the checkpoint, select the range and bearing display to the waypoint, and drive until the alarm sounds. In this case, the bearing to the waypoint will be of little use since you will be following a road and can expect to make numerous deviations from the straight-line bearing. If you are entering a road at an unknown point, the bearing will provide a quick way to determine if you need to turn left or right to get to the waypoint.

Uses in Offensive Operations. Position location devices can provide valuable assistance in a variety of situations during offensive operations, including the following:

- **Assembly area to LD.** Position location systems can locate a unit's position within an assembly area. A waypoint with the grid location of the center unit's area would ensure proper placement within the assembly area. Waypoints at the start point (SP), the release point (RP), and perhaps along the route would help to guide the unit to the LD.
- **LD to objective.** After crossing the LD, the unit could enter key points along the axis of advance as waypoints. Additional waypoints on checkpoints or coordination points would help to positively identify the unit's location.
- **Phase lines (PL) and limit of advance (LOA).** PLs are necessary to coordination of the attack, but the terrain does not always lend itself to easily identifiable PLs. With the global positioning system (GPS), PLs can be placed without reliance on terrain features. The border alert feature will sound an alarm when the unit reaches a designated line on the ground. The same method can be used for locating an LOA line.

- On the objective. Once on the objective, platoons will consolidate and reorganize. In directing the platoons' defensive fire orientation, a distant point, such as a target reference point (TRP), can be selected and entered as a waypoint. The platoon would then take a range/bearing to the point and use that bearing as their orientation. If fuel and ammunition resupply is not performed at the platoon location, the resupply site can be entered as a waypoint to help subordinate units pinpoint its location. The same process can be used to locate collection points for maintenance, EPWs, and wounded.

Uses in Defensive Operations. Uses of position location devices during defensive operations include the following:

- Battle position. In establishing a BP, a unit can use the anchor watch feature of most position location systems to ensure that all elements are within the proper area. The anchor watch sounds an alarm whenever the unit moves too far from a designated center point. Once a vehicle has established its location on primary and subsequent BPs, that location can then be saved as a waypoint to aid in finding it again later.
- Position location systems can also assist movement from one BP to another, particularly during limited visibility. During the reconnaissance/rehearsal of the route, stop and enter your current position as a waypoint at all critical locations such as trail crossings, fords, obstacles, or turns. Each point will be saved in sequence. You can then follow the sequence of waypoints between the BPs.
- Fire planning. Waypoints can also be used to ensure proper orientation of fires using the range and bearing feature.
- Movement. In a passage of lines, the unit that establishes the passage can give grid coordinates of entry points, release points (RP), and critical turns to the passing unit. These coordinates are entered as waypoints. The passing unit can then follow the waypoints and ensure a safe passage without danger of getting lost or wandering into obstacles.

READINESS CONDITIONS

A readiness condition (REDCON) establishes the time necessary for the unit to move or be combat ready. It reflects the commander's expectation of how ready the unit is for combat. The unit SOP should describe REDCON in terms of the critical tasks of preparation that the unit has completed and the time available to prepare. Figure 2-6 is a sample list of REDCON levels with an explanation of each level.

REDCON 1: Full alert, ready to move and fight.

- All personnel alert and prepared for action.
- Vehicles loaded and secured, and weapons manned.
- Platoons ready to move on notification.
- Engines started.

REDCON 2: Stand to complete, ready to fight.

- Precombat checks complete.
- Equipment stowed (except for wire, NBC alarms, and communications gear).

Figure 2-6. Readiness conditions.

REDCON 2: Stand to complete, ready to fight (Cont).

- Prepared to move or fight in position, infantry is dismounted in fighting positions.
- Status reports submitted to company team CP.
- Vehicles ready to move in 15 minutes, if Class IV (mines, concertina, overhead cover, sand bags) are abandoned.

REDCON 3: Reduced alert.

- Fifty percent of each crew, squad stand down for feeding, rest, and maintenance.
- Remaining personnel man vehicles and OPs (including air guards, weapons) prepare positions and obstacles, and monitor radios and phones.
- Vehicles ready to move within 30 minutes of notification. Most Class IV can be recovered.

REDCON 4: Minimum alert.

- OPs manned and one man alert per platoon, monitor radios and man turret weapons.
- Vehicles ready to move in one hour. All Class IV not permanently emplaced can be recovered.

Figure 2-6. Readiness conditions (cont).

Section VI. Operations Security

OPSEC is all measures taken to maintain security and achieve tactical surprise. Units must deny the enemy information about planned, ongoing, and after-operation activity until it is too late for the enemy to react effectively. This section will summarize OPSEC in terms of countersurveillance, information security, signal security, and physical security.

Light armor units are extremely vulnerable to surveillance. The AO, especially in operations other than war, will consist predominantly of dismounted infantry and wheeled utility vehicles. The M8's unique signature (such as noise, dust, and thermal) in this environment will make it more easily detectable. These factors make OPSEC a top priority at every moment of every light armor operation.

COUNTERSURVEILLANCE

Countersurveillance involves taking measures to protect friendly activities from being observed or detected (visually, electronically, or seismologically) by the enemy. Examples of countersurveillance measures and guidelines that apply to them:

Noise and Light Discipline. Follow these guidelines:

- Shield all light sources from enemy view.
- Move only when necessary.
- Use headsets or combat vehicle crewman (CVC) helmets to avoid radio noise.
- Do not slam hatches or doors.

- Use the short count method to start engines simultaneously.
- Perform resupply and maintenance in areas that are masked by terrain.
- Sandbag or shield generators.
- Use hand-and-arm signals when possible.
- Use extra precaution at night when noise and light carry farther.
- Do not allow smoking outdoors at night.

Camouflage. Follow these guidelines:

- Place tree branches or other vegetation on vehicles; hold them in place with commo wire. Drape camouflage nets over turrets.
- Park vehicles in natural concealment and shadows.
- Cover all headlights, mirrors, and optics when possible.
- Enhance camouflage paint with white wash (in winter) or mud when possible to break up the outline of the vehicle (see FM 20-3).
- Consider the effects of dust and smoke when moving.
- When possible, ensure vehicles drive in the tracks created by the vehicles ahead of them or in previously created tracks.
- Blend vehicles with other objects having a thermal emission.

Concealment. Follow these guidelines:

- Disperse vehicles and personnel under foliage or inside structures when possible.
- Conceal vehicles behind objects that can block the thermal line of sight.
- Keep vehicles traveling on existing tracks or roadways in heavily used areas, such as CPs and trains.

Challenge and Password. Ensure these are used and enforced.

Air Defense. Consider ADA coverage against enemy air reconnaissance.

Jamming. Use the following procedures:

- Consider jamming to disrupt enemy communications.
- Destroy enemy jamming, direction finding, and intercept equipment.

Counterreconnaissance. (See [Chapter 6](#)).

Smoke. Screen enemy observers and friendly movement with smoke.

Deception. In most instances, it is impossible to keep armor vehicles from being detected or observed by enemy forces because of their large signature. Deception plans should be employed so that friendly routine actions are conducted with greater uncertainty. Deception can play a significant role in masking the movement of formations, and inducing the enemy to miscalculate friendly objectives or weaknesses.

INFORMATION SECURITY

Information security is the protection of friendly information. Leaders can help prevent compromising sensitive information by—

- Ensuring soldiers do not send critical information in the mail.
- Policing areas to ensure nothing of value is left behind.
- Destroying overlays, orders, and other documents after use or when they are no longer necessary.

SIGNAL SECURITY

Signal security is a vital component of OPSEC procedures. Take the following steps to protect friendly communications:

- Use secure communications means or operational and numerical codes.
- Use low-power transmissions and terrain to mask signals from enemy direction-finding equipment.
- Keep radio transmissions short. Messengers or wire should be used for lengthy messages.
- Units must practice using signal operation instructions (SOI), SOPs, and operational terms. The battalion establishes priorities for issue of SOI and extracts.
- Protect cryptographic systems and classified documents from capture or loss. Before an area is vacated, inspect it for any materials that could provide friendly information to the enemy.
- Patrol wire lines to prevent enemy tapping.
- When SOI codes or cryptographic equipment is lost or captured, report the facts promptly to the next higher command. The unit SOP must contain instructions for destruction of equipment and classified documents to prevent capture or use by the enemy.

PHYSICAL SECURITY

Physical security is the protection of material and equipment. Some examples of physical security include—

- Employing guards, OPs, and patrols at all unit and CP sites.
- Employing anti-intrusion devices, such as platoon early warning systems (PEWS) and trip flares, when stationary.

Section VII. Continuous Operations

EFFECTS

C2 degrades most rapidly in continuous operations. After 48 hours, a total loss of sleep has a significant adverse effect on all soldiers. Fatigued soldiers become careless; they make more errors, have difficulty following instructions, and lack the motivation necessary to

accomplish critical tasks. Several factors influence the degree to which fatigue affects soldiers during continuous operations: water consumption, diet, physical conditioning, personal hygiene, and availability of meaningful work. All soldiers should watch for the following symptoms of fatigue, both in themselves and in others:

- Headaches.
- Poor personal hygiene.
- Impatience or irritability.
- Loss of appetite.
- Inability to focus on the task at hand.

Soldiers with these symptoms may suffer from such problems as—

- Increased errors on the job.
- Difficulty in following instructions.
- Lack of motivation.
- Carelessness.

All soldiers should know these facts about sleep deprivation:

- Sleep deprivation is a primary safety concern, especially for vehicle drivers and operators of dangerous equipment.
- You cannot train to overcome sleep loss.
- Soldiers who are suffering from fatigue or sleep loss are most likely to fall asleep when performing tasks that are lengthy and uninteresting.
- Tasks that have been thoroughly learned and rehearsed are more resistant to sleep loss effects.
- Performance of mental tasks requiring calculations, creativity, and the ability to plan ahead declines by 25 percent for every 24-hour period of semicontinuous work without sleep.
- Leadership ability cannot overcome sleep loss. Leaders are vulnerable to the effects of sleep loss just like other soldiers; it degrades their ability to make quick and effective responses to changing battlefield conditions.
- The best-trained soldiers should be selected to perform critical tasks.
- The ability to learn new information is compromised by sleep loss.
- Sleep loss has a cumulative effect over time (more than 2 days).

KEY LEADER SUSTAINMENT

The most reliable remedy for lack of sleep is sleep itself. Leaders should attempt to sleep before the onset of continuous operations. This period of sleep, if finished just prior to the start of operations, will delay the onset of serious sleep loss effects.

Sleep Priority. Units should establish disciplined sleep priorities, focusing on the following key personnel:

- Leaders on whose decisions mission success and unit survival depend.
- Soldiers who make important calculations or judgments.
- Soldiers who perform surveillance operations.
- Other soldiers.

Action/Sleep Tradeoff. Each leader must decide, based on professional judgment, whether additional work or sleep on his part will contribute most to mission success and unit effectiveness. Leaders must realize they are not capable of controlling their unit 24 hours a day for days on end. During continuous operations, the leader and the XO, S3, or senior subordinate commander should be on complementary shifts to provide control at all times. Units should include plans for such a schedule in their SOPs. A rested leader with a plan made by his XO may be better than a leader suffering from sleep loss who makes his own plan. The leader must also keep in mind that this decision will probably be made when the leader's reasoning process is already blurred by lack of sleep.

Recovery from Sleep Loss. In the uncertainty of combat, leaders will normally not be able to schedule enough rest to fully recover. Leaders should make the most of even small breaks. Only four hours of sleep provides leaders with substantial recovery of simple tasks. Horizontal sleep is the best and should be the goal. Recovery increases with each four-hour block of sleep. Even short "cat naps" significantly enhance recovery.

Adjusted Command and Control Procedures. As sleep loss for the unit increases, leaders should—

- Give simple directions with few secondary tasks.
- Give complete, clear, and precise orders.
- Repeat all orders.
- Double-check themselves and others to ensure orders are carried out.
- Reassure soldiers more often.

When and Where Commanders Sleep. Upon receipt of a new mission, the commander should complete the command estimate and issue orders first. Then he should rest or sleep while subordinate units are completing their planning. Commanders can also sleep during road marches or other movements when the unit is not in contact with the enemy. Commanders should be awake at least 90 minutes prior to the onset of the battle.

Commanders normally sleep at the tactical command post (TAC CP), giving the officer in charge (OIC) instructions on circumstances under which they should be awakened. The unit SOP should contain a basic list of circumstances, which are modified according to the situation, and provide for who is in control while the commander is sleeping. If possible, the XO at the tactical operations center (TOC) should be awake and in control at this time.

If the commander is not able to go to the TAC CP to sleep, he should sleep at the site of the nearest subordinate commander or CP. By doing this, his crew will be able to sleep, he will be close to long-range radios, and he can rely on CP personnel to awaken him at the proper time.

UNIT SUSTAINMENT

When conducting combat operations for longer than 48 hours, the leader must employ techniques for sustaining the combat effectiveness of his subordinate units. He faces the basic choice of using unit replacement or of decentralizing responsibility for sleep plans to his subordinate commanders.

Unit Replacement. When possible, commanders tasked with reconnaissance operations should employ the unit replacement method. No soldier is capable of performing reconnaissance continually over a period of several days. The commander may decide to halt his entire unit for rest, or he can maintain momentum of the movement by periodically introducing fresh subunits to pass through units that are fatigued.

A technique for commanders who are contemplating extremely long operations is to designate daylight and night units. Units in reserve should take advantage of all available time to recover. Commanders may also enhance subunit recovery by carefully selecting REDCON levels allowing subunits to get the maximum rest possible.

Decentralized Sleep Plans. When mission requirements call for the entire unit to be employed, or the unit is tasked to perform a stationary mission, leaders at platoon, section, and crew levels must manage sleep plans. Commanders should be aware of several considerations:

- The length of shifts and rest periods can be managed in several ways: 4 hours on, 4 hours off; 16 on, 8 off; or 12 on, 12 off.
- Rotate tasks (surveillance, security, patrolling) frequently.
- When degradation is substantial, task teams of two or more soldiers to perform the important tasks (radio watch and surveillance).
- Ensure OPs are manned by crews or sections.

Other Sustainment Techniques. Additional techniques include the following:

- Sleep up to 12 hours before the start of continuous operations.
- Ensure mild stimulants, such as coffee or cola, are on hand.
- Synchronize wake/sleep cycles with the combat zone's local time as early as possible (redeployment if feasible).